

Claim 1 relates to a method of growing a gallium nitride single crystal using a flux comprising at least a sodium metal. The gallium nitride single crystal is grown in an atmosphere of a gas mixture including nitrogen gas under a total pressure of 300 atmospheres to 2000 atmospheres. The criticality of the lower limit of 300 atmospheres is clearly demonstrated by the Examples in the present specification.

Kawamura discloses a liquid phase epitaxy (LPE) method for growing gallium nitride single crystals using a Na flux method at a required pressure of 45 atmospheres.

Claim 1 is distinguishable from Kawamura because the lowest pressure required for claim 1 is over six times greater than the pressure disclosed by Kawamura (i.e., 300 atmospheres compared to 45 atmospheres). Thus, the PTO has failed to establish a *prima facie* case of obviousness because there is no teaching, suggestion or motivation in Kawamura to grow gallium nitride single crystals at a pressure greater than 45 atmospheres. In fact, the Na flux method disclosed by Kawamura actually reduced the required pressure to grow gallium nitride single crystals (see Kawamura reference at page L4, column 1).

During the interview, Examiner Hiteshew tentatively agreed that the above arguments distinguished claim 1 from Kawamura and requested that the arguments be submitted in writing.

Based on the above, the cited reference fails to teach or suggest each and every element of claim 1. Accordingly, Applicants respectfully request that Examiner Hiteshew reconsider and withdraw this rejection.

2. The objection to claim 7 is noted, but deemed moot in view of claim 7 depending from claim 1, and claim 1 being patentable for the reasons explained above.

For at least the foregoing reasons, Applicants respectfully submit that all pending claims herein define patentable subject matter over the art of record.

If Examiner Hiteshew believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, she is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

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Date



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